

WHAT WE CLAIM IS:

1. An electric resistance furnace comprising an axially vertical, hollow center heating element, a center furnace body that comprises a heat-insulating member and
5 is provided for supporting said center heating element, and a preheating means that is provided at a gap from a surface of said center furnace body and comprises a preheating element provided on an inner wall surface of a cylindrical heat-insulating member, wherein:

10 a heat-insulating member is located at an upper surface and a lower surface of an outer heat-insulating member located around said preheating member and on only a center axis side of said furnace with respect to an area of projection of said preheating means.

15 2. The electric resistance furnace according to claim 1, wherein said center furnace body comprises a cylindrical, center heating element with electrically conductive connection terminal portions provided at two axial ends and a cylindrical insulator that surrounds said
20 center heating element.

3. The electric resistance furnace according to claim 1, wherein said center furnace body comprises a center heating element wherein electrically conductive connection terminal portions are formed on a wall surface
25 of a cylindrical member in a direction at right angles with an axis thereof, and a holder member provided on an upper portion and a lower portion thereof, an outside diameter of which is given by a maximum diameter of the

terminal portions of said center heating element.

4. The electric resistance furnace according to claim 1, wherein said center furnace body is a zirconia-based heating element.

5 5. The electric resistance furnace according to claim 2, wherein said center furnace body is a zirconia-based heating element.

6. The electric resistance furnace according to claim 3, wherein said center furnace body is a zirconia-based heating element.
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